

JENNER & BLOCK LLP

Reid J. Schar (*pro hac vice*)

RSchar@jenner.com

353 N. Clark Street

Chicago, IL 60654-3456

Telephone: +1 312 222 9350

Facsimile: +1 312 527 0484

CLARENCE DYER & COHEN LLP

Kate Dyer (Bar No. 171891)

kdyer@clarencedyer.com

899 Ellis Street

San Francisco, CA 94109-7807

Telephone: +1 415 749 1800

Facsimile: +1 415 749 1694

CRAVATH, SWAINE & MOORE LLP

Kevin J. Orsini (*pro hac vice*)

korsini@cravath.com

825 Eighth Avenue

New York, NY 10019

Telephone: +1 212 474 1000

Facsimile: +1 212 474 3700

Attorneys for Defendants PACIFIC GAS AND ELECTRIC COMPANY

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION**

UNITED STATES OF AMERICA,

Plaintiff,

v.

PACIFIC GAS AND ELECTRIC  
COMPANY,

Defendant.

Case No. 14-CR-00175-WHA

**PACIFIC GAS AND ELECTRIC  
COMPANY'S RESPONSE TO  
REQUEST FOR INFORMATION**

Judge: Hon. William Alsup

Date: July 31, 2019

1 Defendant Pacific Gas and Electric Company (“PG&E”) respectfully submits this  
2 memorandum in response to the Court’s July 10, 2019 Request for Offender PG&E to Supply  
3 Information. As required by the Request, PG&E hereby responds to each paragraph of a *Wall Street*  
4 *Journal* article dated July 10, 2019, bearing the headline “PG&E Knew for Years Its Lines Could  
5 Spark Wildfires, and Didn’t Fix Them” (the “WSJ Article”).

6 PG&E has acknowledged that its transmission equipment caused the devastating November 8,  
7 2018 Camp Fire that killed 85 people, destroyed the Town of Paradise, and burned over 150,000 acres.  
8 And PG&E understands the magnitude of the challenges it faces in reducing wildfire risk and the  
9 responsibility it owes all Californians to address those risks. The October 2017 wildfires and the  
10 Camp Fire have demonstrated the new normal of significantly increased wildfire risk. PG&E  
11 understands that it must do more than ever before to address this new risk profile. PG&E welcomes  
12 input from the community to the ongoing dialogue on how PG&E can operate its electric system more  
13 safely at this time of unprecedented fire risk.

14 In preparing this submission, PG&E has investigated the factual basis for each statement in the  
15 WSJ Article. While it has not been possible to provide exhaustive responses here given the page limit  
16 for this submission, PG&E hopes that these responses will contribute to an accurate and more  
17 complete understanding of the issues, including PG&E’s maintenance of its transmission lines in the  
18 years before the Camp Fire and its efforts to develop enhanced, risk-based methods for inspecting and  
19 maintaining its thousands of transmission line miles.

20 PG&E takes this opportunity at the outset to address briefly three issues raised by the *WSJ*  
21 Article. *First*, since the Camp Fire, PG&E has fundamentally changed its approach in light of the new  
22 increased risk environment by, among other things, comprehensively inspecting its transmission,  
23 distribution and substation assets in elevated and extreme fire-threat areas before the 2019 fire season.  
24 As PG&E reported on June 19, 2019, by that time, PG&E had addressed every highest-priority  
25 condition on transmission structures and at substations, and 97% of all such conditions on distribution  
26 poles. PG&E continues to take corrective actions to address remaining conditions. These enhanced  
27 inspections are but one element of PG&E’s redesigned Community Wildfire Safety Program, first  
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1 implemented in response to the October 2017 wildfires. That program also includes real-time, round-  
2 the-clock monitoring of wildfire risks from PG&E's Wildfire Safety Operations Center; proactively  
3 de-energizing power lines when high winds and dry conditions, combined with a heightened fire risk,  
4 are forecasted; enhanced vegetation management work focusing on high-risk trees that pose the most  
5 wildfire risk; disabling automatic reclosing of circuit breakers and reclosers in high fire-risk areas  
6 during wildfire season; and system hardening efforts that include installing stronger and more  
7 fire-resilient poles and covered power lines, as well as targeted undergrounding.

8         *Second*, PG&E welcomes the growing public focus on the acute problem of aging transmission  
9 infrastructure. In its filings with the Federal Energy Regulatory Commission ("FERC"), PG&E has  
10 sought and continues to seek authorization to set the rates it charges for electric transmission services  
11 at levels sufficient to support, among other things, replacement of aging equipment over time. When  
12 PG&E files its transmission revenue requirement requests with FERC, the other participants in those  
13 proceedings, including the California Public Utilities Commission ("CPUC"), PG&E's wholesale  
14 transmission customers, and FERC Trial Staff review the filings while also conducting discovery  
15 related to PG&E's requests. In the past, those participants have questioned PG&E's proposed level of  
16 spending on transmission assets. For example, in a 2017 ratemaking proceeding, the CPUC stated,  
17 "While the CPUC recognizes that repair and replacement are necessary components of a utility's  
18 operation, the amount that PG&E has been spending on what appears primarily to be replacement of  
19 transmission facilities is staggering and potentially unjustified." (Ex. A, Initial Br. of the CPUC,  
20 *Pacific Gas and Electric Co.*, Dkt. No. ER16-2320-002 (Mar. 15, 2018) at 8.) The CPUC also stated  
21 there was reason to believe that PG&E was "'gold plating' the system" and "unreasonably burden[ing]  
22 ratepayers with unnecessary costs." (*Id.* at 2-3.) This ratemaking process has resulted in settlements  
23 at amounts less than what PG&E initially requested. Going forward, PG&E hopes to work with all  
24 relevant stakeholders to re-calibrate the level of investment in transmission asset replacement that will  
25 be supported in light of the unprecedented wildfire risk California is now facing.

26         *Third*, PG&E strongly disagrees with the *WSJ* Article's suggestion that PG&E knew of the  
27 specific maintenance conditions that caused the Camp Fire and nonetheless deferred work that would  
28

1 have addressed those conditions. The article’s implication that PG&E delayed planned maintenance  
 2 that could have averted the Camp Fire is based primarily on certain non-routine work PG&E was  
 3 planning for the Caribou-Palermo 115 kV Transmission Line in response to an October 7, 2010 North  
 4 American Electric Reliability Corporation (“NERC”) Recommendation to Industry (the “NERC  
 5 Alert”). The purpose of that work was not to identify and fix worn or broken parts, such as the hook  
 6 on the transmission tower that failed and caused the Camp Fire to ignite. Rather, the purpose of that  
 7 work was to address the clearance between transmission line conductors and from transmission line  
 8 conductors to the ground. The NERC work on the Caribou-Palermo line was just one of hundreds of  
 9 projects within PG&E’s broader effort to respond to the NERC Alert. To date, PG&E has addressed  
 10 more than 10,000 conductor clearance issues (out of the approximately 11,500 total), at a cost of over  
 11 \$750 million. PG&E provides regular updates on its progress to regulators.

12 Critically, the *WSJ* Article fails to mention that the tower identified as the origin point of the  
 13 Camp Fire—Tower :27/222—was *not* one of the towers slated for replacement under the NERC Alert  
 14 program. In short, the NERC Alert work had nothing to do with the Camp Fire.

15 **PARAGRAPH 1 OF WALL STREET JOURNAL ARTICLE:**

16 PG&E Corp. knew for years that hundreds of miles of high-voltage power lines could  
 17 fail and spark fires, yet it repeatedly failed to perform the necessary upgrades.

18 **RESPONSE TO PARAGRAPH 1:**

19 PG&E admits that it has long known that the approximately 18,000 miles of overhead high-  
 20 voltage power lines in its transmission system, like all energized lines, have the potential to fail and  
 21 ignite fires.

22 Historically, though, equipment failures on PG&E’s high-voltage transmission lines have  
 23 accounted for a small percentage of ignitions as compared to distribution lines. Based on ignition data  
 24 for the 2014-2017 period that PG&E has reported to the CPUC, equipment failure on high-voltage  
 25 lines operating at 115 kV or above was identified as the underlying cause of only 7 of the 1,552  
 26 ignitions attributed to PG&E assets (less than 1% of all ignitions reported in that period). (*See PG&E*  
 27 *Fire Incident Data 2014-2018, available at*  
 28

1 [https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News\\_Room/NewsUpdates/2019/PG](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/PG)  
 2 [E\\_Fire%20Incident%20Data%202014-2018.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/PG).) The reasons for the comparatively low number of  
 3 ignitions attributed to PG&E's high-voltage transmission lines are varied. Such lines typically use  
 4 steel structures rather than wood poles, have higher conductor-to-ground clearances than distribution  
 5 lines, and are situated on managed rights-of-way that are cleared of trees.

6 By contrast, in the years preceding the Camp Fire, PG&E monitored data showing that a major  
 7 driver of ignitions caused by its equipment was vegetation contact with distribution lines. During the  
 8 2014-2017 period, PG&E reported 426 ignitions where vegetation came into contact with distribution  
 9 assets, comprising approximately 27% of all ignitions reported in that period. (*Id.*) Some of the most  
 10 devastating wildfires, including, for example, the Butte Fire, conformed to that pattern. As a result,  
 11 PG&E focused earlier wildfire mitigation efforts on its distribution system—and vegetation  
 12 management in particular.

13 PG&E denies the generalized assertion that it repeatedly failed to perform the necessary  
 14 upgrades to prevent failures on its transmission lines. The suggestion that PG&E has ignored  
 15 investment in its transmission lines is inaccurate. Across its transmission system as a whole, PG&E's  
 16 actual spending on expense work related to its transmission lines, including routine maintenance,  
 17 ranged from \$140 million to \$294 million per year from 2008 to 2018, with a general upward trend  
 18 over that period. PG&E's actual capital expenditures on transmission assets grew by an average of  
 19 7.35% each year from 2007 to 2018, trending upwards from \$655 million in 2008 to approximately  
 20 \$1.29 billion in 2018. PG&E spent the following amounts to upgrade its transmission system from  
 21 2006 to 2018:

- 22 • approximately \$1.5 billion on projects to increase transmission system capacity to serve  
 23 customer demand (including system rearrangements, new transmission lines, and line re-  
 conductor);
- 24 • approximately \$1.34 billion on “line preventative work,” which supports the replacement  
 25 of overhead conductors and devices on transmission structures on over 18,000 transmission  
 26 line miles operating at voltages from 60 kV to 500 kV. The primary reason for  
 replacement is to address the effects of aging;

- approximately \$438 million to replace transmission wood poles, steel poles, and steel towers at the end of their useful lives;
- approximately \$108 million on projects to maintain access to transmission line rights-of-way; and
- approximately \$290 million on emergency response work that includes replacing damaged line-related equipment that has resulted in an outage or is a high priority for safety reasons.

**PARAGRAPH 2 OF WALL STREET JOURNAL ARTICLE:**

Documents obtained by The Wall Street Journal under the Freedom of Information Act and in connection with a regulatory dispute over PG&E's spending on its electrical grid show that the company has long been aware that parts of its 18,500-mile transmission system have reached the end of their useful lives.

**RESPONSE TO PARAGRAPH 2:**

PG&E admits reporting in its regulatory filings that parts of its transmission system had reached or were reaching the end of their useful lives. PG&E's publicly available filings also describe its efforts to replace parts of its transmission system at or near the end of useful life that cannot be repaired. As an example, in 2018, PG&E provided FERC with information on its "Tower Replacement Program . . . established to manage the replacement of steel structures that have reached the end of their useful lives . . . where repair is either less cost effective or not feasible." (*See* Ex. B, PGE-0003 (D. Gabbard Direct Testimony), *Pacific Gas and Electric*, Dkt. No. ER19-13-0000 (Oct. 1, 2018) at 12:1-6.)

**PARAGRAPH 3 OF WALL STREET JOURNAL ARTICLE:**

The failure last year of a century-old transmission line that sparked a wildfire, killed 85 people and destroyed the town of Paradise wasn't an aberration, the documents show. A year earlier, PG&E executives conceded to a state lawyer that the company needed to process many projects, all at once, to prevent system failures—a problem they said could be likened to a "pig in the python."

**RESPONSE TO PARAGRAPH 3:**

PG&E acknowledges that the failure of a component on a nearly 100-year-old PG&E transmission tower caused the Camp Fire. The component that failed was a steel suspension hook known as a C-hook.

1 PG&E disagrees with the assertion that this failure “wasn’t an aberration.” As stated in  
 2 PG&E’s response to Paragraph 1, wildfire ignitions as a result of equipment failure on high-voltage  
 3 transmission lines are relatively uncommon. (*See also* 2018 Annual Availability Report, *available at*  
 4 <http://www.caiso.com/Documents/PG-E-TransmissionAvailabilityReport.pdf> (“Electric transmission  
 5 (ET) wire down events typically account for between 1% and 2% of all T&D wire down events each  
 6 year.”).)

7 PG&E acknowledges that in connection with a FERC revenue requirement request, PG&E  
 8 Senior Director David Gabbard gave written and oral testimony about projected replacement  
 9 schedules for PG&E transmission infrastructure constructed in the early 1900s and in the years  
 10 following World War II. Specifically, Mr. Gabbard explained in written testimony that “[a]  
 11 significant part of PG&E’s transmission infrastructure was constructed in the years following World  
 12 War II, with some assets being even older” and that “[d]ue to an increasingly large number of these  
 13 assets nearing the end of their useful service lives, capital investment will shift significantly, from  
 14 capacity increase-related projects, to lifecycle replacement projects.” (Ex. C, Prepared Rebuttal Test.  
 15 of D. Gabbard, *Pacific Gas and Electric Co.*, Dkt. No. ER16-2320-002 (Oct. 9, 2017) at 7:3-18.)

16 PG&E clarifies that it was not PG&E executives who initially likened the problem of aging  
 17 transmission equipment due for replacement at approximately the same time “to a ‘pig in the python.’”  
 18 That analogy was suggested by a CPUC attorney during cross-examination of Mr. Gabbard in a  
 19 January 2018 regulatory rate proceeding. The relevant portion of the hearing transcript is set forth  
 20 below:

21 “Q. Yes. What years are you talking about when you say that  
 22 PG&E’s—a significant part of PG&E’s transmission infrastructure was  
 constructed in the years following World War II?

23 “A. Referencing a broad era of time in the ‘50s and ‘60s. That’s  
 24 referencing a large portion of our assets, but we have a significant  
 25 portion of our 115 kV assets that were built as early as in the 1920s time  
 frame and earlier.

26 “Q. This is what I described in your deposition as the pig and the  
 27 python problem. There were a lot of assets built at the same time during  
 this World War II period, in the ‘50s and ‘60s and that these assets will  
 28



1 potentially need to be replaced around the same time. Is that an accurate  
2 description of the problem?

3 “A. Yes.” (Ex. D, Hr’g Tr. (D. Gabbard Test.), *Pacific Gas and*  
4 *Electric Co.*, Dkt. No. ER16-2320-002 (Jan. 23, 2018) at 1341:25-  
1342:14.)

5 **PARAGRAPH 4 OF WALL STREET JOURNAL ARTICLE:**

6 Even before November’s deadly fire, the documents show, the company knew that 49  
7 of the steel towers that carry the electrical line that failed needed to be replaced  
entirely.

8 **RESPONSE TO PARAGRAPH 4:**

9 PG&E acknowledges that, prior to November 2018, it had identified approximately 60 towers  
10 for replacement on the Caribou-Palermo 115 kV Transmission Line. Tower :27/222, the tower  
11 identified as the origin point of the Camp Fire, was not one of the towers slated for replacement.

12 The towers were identified for replacement in connection with PG&E’s response to the NERC  
13 Alert. The industry-wide NERC Alert required PG&E and other electric utilities across the nation to  
14 identify areas in their transmission system where conductors may be too close to the ground or to each  
15 other, or have the potential to sag too close to the ground under extreme temperatures. In response to  
16 the NERC Alert, PG&E identified thousands of towers on hundreds of lines throughout its  
17 transmission system—including the Caribou-Palermo line—that required work to increase the vertical  
18 clearance of conductors. To address vertical conductor clearance issues, PG&E typically installs  
19 extensions on towers to make them taller or raises the height of the wires by tightening or “re-  
20 tensioning” them. Tower replacements are typically done when PG&E determines that other  
21 mitigations are not feasible.

22 For the Caribou-Palermo towers identified for replacement, PG&E determined that those  
23 towers should be replaced because the design of the towers made them unsuitable for tower extensions  
24 to raise the height of the towers, as explained in greater detail in PG&E’s response to Paragraph 24.  
25 Again, none of these towers slated for replacement was the tower at which the Camp Fire originated.  
26  
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**PARAGRAPH 5 OF WALL STREET JOURNAL ARTICLE:**

In a 2017 internal presentation, the large San Francisco-based utility estimated that its transmission towers were an average of 68 years old. Their mean life expectancy was 65 years. The oldest steel towers were 108 years old.

**RESPONSE TO PARAGRAPH 5:**

PG&E admits that a slide in an internal PG&E presentation titled “Electric Overhead Steel Structure Strategy Overview”, dated June 2017, contains the figures referenced in the *WSJ* Article. (*See* Ex. E, Electric Overhead Steel Structure Strategy Overview (June 2017) at 7.) As noted on the same slide, the life expectancy and age estimates referenced in the June 2017 presentation are based on a section of a May 2010 “Transmission Line Component Management Report” prepared at PG&E’s request by Quanta Technology (the “Quanta Study”).

However, the Quanta Study notes that the life expectancy estimates in the study (on which the figures in the June 2017 presentation are based) do not refer to the point at which “complete failure of a structure” is anticipated. (Ex. F, Quanta Study, “Structures” Chapter, at 37.) Rather, they are averages “based on the ages of failed *components* as found in maintenance records from 2004-2009”, with “failure” referring to the point at which a component “requir[es] significant maintenance or replacement”. (*Id.* (emphasis added).) The conditions that qualified as “failures” for the purposes of the Quanta Study included slack guy wires, earth-covered anchors, cracked foundations and bent steel, all of which can be addressed through maintenance work and typically do not require replacement of the entire structure. Moreover, the Quanta Study specifically notes that “[t]here are many structures 100 years old that have not failed or, more likely, have had component replacement o[r] significant maintenance prior to the period of this data set” and that “[l]attice steel structures installed in the 1920s in the US utility industry remain in service in many locations.” (*Id.* at 20, 38.)

The same slide referenced in the *WSJ* Article also notes that the life expectancy for towers varies substantially depending on the surrounding environment. The slide states that the “max” life expectancy for towers in “coastal” environments is 80 years, while the “max” life expectancy for towers in “valley” environments is “100+ years.” (Ex. E, Electric Overhead Steel Structure Strategy

1 Overview (June 2017) at 7.) These variable estimates are consistent with the Quanta Study, which  
2 found that the failure rates for towers in “coastal regions” are “significantly higher” than the failure  
3 rates for structures “in the valley and mountain regions,” principally because coastal environments are  
4 more corrosive than mountain and valley regions. (Ex. F, Quanta Study, “Structures” Chapter, at 46,  
5 49.) Tower :27/222 on the Caribou-Palermo 115 kV Transmission Line is located in a mountain  
6 region.

7 In the years leading up to the Camp Fire, PG&E was implementing a Tower Replacement  
8 Program to replace certain towers that it determined to be at heightened risk of failure. Consistent  
9 with Quanta’s recommendations, and as noted in the June 2017 presentation, towers in coastal  
10 environments that were subject to corrosion (and thus at greater risk of failure) were higher priorities  
11 for replacement under that program. (See Ex. E, Electric Overhead Steel Structure Strategy Overview  
12 (June 2017) at 4, 15.) Specifically, PG&E focused on towers in the San Francisco Bay area due to  
13 their direct exposure to saltwater from the bay. (See *id.*) Over the medium to long term, PG&E’s  
14 Tower Replacement Program called for replacement of additional towers in valley and mountain areas  
15 according to a data-driven, risk-weighted prioritization.

16 **PARAGRAPH 6 OF WALL STREET JOURNAL ARTICLE:**

17 PG&E, which supplies electricity and natural gas to 16 million people, or about one in  
18 20 Americans, operates one of the oldest long-distance electrical transmission networks  
19 in the world. It was built beginning in the early 1900s to carry hydroelectric power  
from the Sierra Nevada to the San Francisco Bay Area. Many of its original steel  
towers and other equipment are still in service.

20 **RESPONSE TO PARAGRAPH 6:**

21 PG&E is not in a position to comment on the age of transmission systems other than its own,  
22 but acknowledges that portions of its transmission system have been in operation since the early  
23 1900s. PG&E admits that many of its original steel towers and other equipment are still in service.  
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**PARAGRAPH 7 OF WALL STREET JOURNAL ARTICLE:**

The danger posed by PG&E's neglect of its transmission lines increased around 2013, when a historic drought dried up much of California, creating extraordinary fire conditions. In its 2017 internal presentation, the company said it needed a plan to replace towers and better manage lines to prevent "structure failure resulting [in] conductor on ground causing fire."

**RESPONSE TO PARAGRAPH 7:**

PG&E admits that the June 2017 internal presentation titled "Electric Transmission Overhead Steel Structure Strategy Overview" outlined a series of PG&E's safety, reliability and environmental objectives for overhead steel transmission lines, including "[e]nsur[ing] the environment is protected from structure failure resulting [in] conductor on ground causing fire." (Ex. E, Electric Overhead Steel Structure Strategy Overview (June 2017) at 3.) PG&E admits that short-term goals listed in that same internal presentation included "[d]evelop[ing] a steel structure replacement plan," managing data associated with steel structures, and "[e]valuat[ing] the effectiveness of [PG&E's existing] design, maintenance and inspection program and mak[ing] necessary recommendations for improvement." (*Id.* at 4.)

PG&E denies that it has "neglect[ed]" its transmission lines. PG&E had programs in place before the Camp Fire to inspect, maintain, repair and replace transmission equipment, as well as to manage vegetation in the vicinity of its transmission lines. PG&E has enhanced those programs since the Camp Fire.

It is true that environmental changes have fundamentally altered wildfire risk in the State of California, including, in particular, PG&E's service territory in recent years. The combined effects of record drought and heat, unprecedented tree mortality, and extreme wind events have greatly exacerbated the risk and destructiveness of California wildfires.

**PARAGRAPH 8 OF WALL STREET JOURNAL ARTICLE:**

Nevertheless, PG&E repeatedly delayed upgrades of some of its oldest transmission lines, ranking them as low-risk projects, while it spent billions of dollars on other work it considered higher priority, such as substation upgrades, according to federal regulatory filings.

**RESPONSE TO PARAGRAPH 8:**

PG&E denies the statement that it “repeatedly delayed upgrades of some of its oldest transmission lines, ranking them as low-risk projects,” as an oversimplification and misrepresentation of PG&E’s process for prioritizing repair and replacement of its transmission asset base. PG&E adheres to a maintenance program under which it determines repair and replacement priorities for transmission assets based on a variety of factors. Among the factors that PG&E considers beyond asset age are public and employee safety, system criticality, customer impact, asset health, maintenance records, inspection history, and operational considerations. (Ex. G, PGE-0037, Prepared Rebuttal Test. of K. Dasso, *Pacific Gas and Electric Co.*, Dkt. No. ER16-2320-002 (Oct. 9, 2017) at 13.) While PG&E—like all utilities—has to make decisions about how to prioritize work, it has done so based upon a multi-factored analysis that it has disclosed to its regulators.

**PARAGRAPH 9 OF WALL STREET JOURNAL ARTICLE:**

Among the problems, the utility has struggled to figure out which of its lines needed the most attention.

**RESPONSE TO PARAGRAPH 9:**

PG&E denies the generalized assertion that it “has struggled to figure out which of its lines needed the most attention.” To identify and prioritize assets for repair and replacement, PG&E uses data from multiple sources, including PG&E’s Systems, Applications and Products (“SAP”) database, which stores inspection and maintenance records for transmission assets; the Electric Transmission Geographic Information System, which stores known information about asset location, age, manufacturer, ratings, configuration and type; and PG&E’s outage information database. While PG&E strives to collect and maintain comprehensive information on the condition of its transmission assets, the availability and quality of such data varies for a number of reasons, including PG&E’s

1 acquisition over time of smaller utilities that did not keep reliable asset age data. Currently, PG&E is  
 2 evaluating how to leverage the improved asset condition information provided by its recent enhanced  
 3 inspections.

4 The asset condition data available to PG&E are used as inputs to PG&E's Risk-Informed  
 5 Budget Allocation ("RIBA") process. In 2014, PG&E adopted that methodology for prioritizing  
 6 projects, including asset replacements, based on consideration of a project's impact on safety,  
 7 reliability and the environment. Other prioritization considerations include any mandatory work  
 8 commitments, compliance requirements, external commitments and the interrelationship among  
 9 projects.

10 **PARAGRAPH 10 OF WALL STREET JOURNAL ARTICLE:**

11 Until recently, PG&E hadn't regularly climbed its towers to inspect their condition,  
 12 despite the suggestion of an outside consultant it hired, according to interviews with  
 13 current and former company officials and documents filed in connection with a  
 spending dispute between PG&E and state regulators. It began detailed inspections of  
 its transmission lines only after the Camp Fire that destroyed Paradise.

14 **RESPONSE TO PARAGRAPH 10:**

15 PG&E admits that its policies did not require routine climbing inspections of transmission  
 16 lines below 500 kV before the Camp Fire. Even before the Camp Fire, however, PG&E's policies did  
 17 require climbing inspections on its 500 kV lines at intervals of every three years for "critical steel  
 18 structures" and every 12 years for "non-critical steel structures". In addition, PG&E's policy called  
 19 for conducting climbing inspections on all transmission lines, including 115 kV lines, in response to  
 20 specific "triggering" events such as component defects identified by inspection, component failure,  
 21 fire hazards and suspected vegetation clearance issues. And, in the months before the Camp Fire,  
 22 PG&E performed non-routine climbing inspections of approximately 80 structures on the Caribou-  
 23 Palermo 115 kV Transmission Line (not including Tower :27/222) as part of an effort to assess the  
 24 condition of aging transmission lines.

25 PG&E denies that it "began detailed inspections of its transmission lines only after the Camp  
 26 Fire that destroyed Paradise." Prior to the Camp Fire, PG&E policy called for detailed ground  
 27 inspections of overhead transmission lines between 60 and 230 kV at least every five years, as well as  
 28

1 aerial patrols of such lines every year in which a detailed inspection was not performed. In addition to  
2 inspecting and patrolling every transmission line mile on a routine basis, PG&E policy called for  
3 infrared (“IR”) inspections every five years for all transmission assets and as triggered by specific  
4 events.

5 PG&E has significantly enhanced its inspection efforts in Tier 2 and Tier 3 High Fire-Threat  
6 Districts since the Camp Fire. As PG&E has publicly disclosed, those efforts have identified  
7 thousands of conditions requiring repairs on PG&E’s system that had not been previously identified.

8 **PARAGRAPH 11 OF WALL STREET JOURNAL ARTICLE:**

9 In addition to those inspections, PG&E said it began using drones and helicopters  
10 earlier this year to capture images of its transmission structures to analyze their  
condition, identify potential points of failure and prioritize repairs.

11 **RESPONSE TO PARAGRAPH 11:**

12 PG&E admits Paragraph 11.

13 **PARAGRAPH 12 OF WALL STREET JOURNAL ARTICLE:**

14 State fire officials concluded in May that a failure of PG&E equipment on a line known  
15 as the Caribou-Palermo, built in 1921, caused the fire, the deadliest in California  
history.

16 **RESPONSE TO PARAGRAPH 12:**

17 PG&E admits Paragraph 12.

18 **PARAGRAPH 13 OF WALL STREET JOURNAL ARTICLE:**

19 Federal and state regulators have paid little attention to the condition of PG&E’s  
20 transmission system, and have largely left it up to the company to decide what to  
21 upgrade and when. California officials are proposing adding more inspections and  
oversight.

22 **RESPONSE TO PARAGRAPH 13:**

23 PG&E has no specific knowledge of any plans that California officials may be contemplating  
24 regarding inspection or oversight of utilities.

25 PG&E disagrees with the assertion that “[f]ederal and state regulators have paid little attention  
26 to the condition of PG&E’s transmission system” and “have largely left it up to the company to decide  
27 what to upgrade and when.” PG&E’s transmission system is governed by federal and state regulations  
28

1 and a regulatory oversight regime. For example, CPUC General Order 95 (“GO 95”) imposes  
2 requirements to which utilities like PG&E must adhere in constructing and maintaining overhead  
3 power lines, including transmission lines. Those requirements apply to, among other things, the  
4 vertical clearance of transmission line conductors (Section III, Rule 38), vegetation management  
5 around transmission lines (Section III, Rule 35), and the requisite strength of materials used on electric  
6 transmission systems, including on steel transmission towers (Section IV, Rule 48).

7 The CPUC enforces compliance with the foregoing standards through regular audits of  
8 PG&E’s transmission facilities. CPUC staff may review PG&E’s inspection and maintenance records  
9 at any time on 30 days’ notice. *See* Public Utilities Code § 314(a); GO 165 § IV; GO 95, Section I,  
10 Rule 18(A)(1). Since 2010, the CPUC has elected to review PG&E’s inspection and maintenance  
11 records and visit PG&E transmission facilities at least five times.

12 PG&E’s transmission system is also subject to oversight by the California Independent System  
13 Operator (“CAISO”). CAISO, which was created by California state law and approved by FERC as a  
14 FERC-jurisdictional Independent System Operator, coordinates transmission activities among its state  
15 utility members, including PG&E, to help ensure the safe and reliable operation of the broader electric  
16 grid. Each utility with facilities under CAISO’s operational control, including PG&E, must submit  
17 detailed information regarding its maintenance practices to CAISO through filing a Transmission  
18 Owner Maintenance Plan (“TOMP”), and also to the Western Electric Coordinating Council  
19 (“WECC”) through filing a Transmission Maintenance Inspection Plan (“TMIP”). Each such utility is  
20 also required to review those plans annually and is responsible for notifying CAISO and WECC of  
21 any changes to its plans. (May 21, 2007 ISO Memorandum; WECC Standard FAC 501.) Further,  
22 under FERC Order Number 890, CAISO also reviews certain proposed transmission projects by each  
23 Transmission Owner, such as proposed system capacity upgrades, as part of an overall transmission  
24 planning process.

25 Each year, CAISO also randomly selects up to 10% of PG&E’s transmission facilities and  
26 station facilities (*e.g.*, substations and switching stations) for review. (*See* ISO Maintenance Review  
27 Transmission Maintenance Procedure No. 4 § 4.1.2.)  
28



Moreover, as described above, PG&E's proposed spending on its transmission system is subject to review by federal and state regulators through the process surrounding PG&E's annual transmission owner filings with FERC. Such filings set forth PG&E's spending plans for its transmission system and request FERC authorization of proposed rates that PG&E seeks to charge for its electric transmission services. Far from "le[aving] it up to [PG&E] to decide what to upgrade and when," as the *WSJ* Article claims, the CPUC has intervened in those proceedings to challenge PG&E's requests for rate increases. Indeed, much of the testimony by PG&E employees cited in the *WSJ* Article was given in rate case proceedings where the CPUC disputed PG&E's explanation that required upgrades to its infrastructure justified its proposed rate increase. (*See* Ex. A, Initial Br. of the CPUC, *Pacific Gas and Electric Co.*, Dkt. No. ER16-2320-002 (Mar. 15, 2018) at 2-3.)

**PARAGRAPH 14 OF WALL STREET JOURNAL ARTICLE:**

Utilities across the U.S. have neglected to maintain older high-voltage lines, many built to support booming population growth in the decades before and after World War II, said Gregory Reed, director of the Energy GRID Institute at the University of Pittsburgh.

**RESPONSE TO PARAGRAPH 14:**

PG&E is not in a position to comment on whether the *WSJ* Article accurately paraphrased Mr. Reed or presented his paraphrased statements in the context of his complete remarks.

**PARAGRAPH 15 OF WALL STREET JOURNAL ARTICLE:**

"We have known for a long time that we are dealing with aging and antiquated infrastructure," he said. "In a lot of cases, the business model was to wait for a failure and then respond."

**RESPONSE TO PARAGRAPH 15:**

PG&E is not in a position to comment on whether the *WSJ* Article accurately quoted Mr. Reed or presented his statements in the context of his complete remarks.

1 **PARAGRAPH 16 OF WALL STREET JOURNAL ARTICLE:**

2 PG&E sought bankruptcy protection in January, citing more than \$30 billion in  
3 potential liability stemming from lawsuits and other claims related to its role in  
4 sparking fires. The company in December began “enhanced inspections” that included  
climbing towers, some for the first time in decades.

5 **RESPONSE TO PARAGRAPH 16:**

6 PG&E acknowledges seeking bankruptcy protection in January 2019 and, in doing so, having  
7 cited potential liabilities with respect to the October 2017 wildfires and 2018 Camp Fire.

8 PG&E admits the second sentence in Paragraph 16. PG&E’s enhanced wildfire mitigation  
9 efforts have been described extensively in prior filings. (*See, e.g.*, Dkt No. 976 at 47-50.)

10 **PARAGRAPH 17 OF WALL STREET JOURNAL ARTICLE:**

11 After completing those inspections, the company disclosed June 19 that it needs to  
12 make thousands of repairs. And it decided to permanently shut down the Caribou-  
Palermo line after assessing the amount of work it would take to operate it safely.

13 **RESPONSE TO PARAGRAPH 17:**

14 PG&E admits that, as a result of recently concluded Wildfire Safety Inspection Program  
15 (“WSIP”) inspections of the bulk of its transmission, distribution and substation assets in Tier 2 and  
16 Tier 3 High Fire-Threat Districts, PG&E identified thousands of conditions requiring corrective  
17 action. As PG&E reported on June 19, 2019, by that time, PG&E had addressed all highest-priority  
18 conditions associated with its transmission and substation facilities, and all but 3% of the highest-  
19 priority distribution conditions.

20 PG&E also admits that it has decided to de-energize the Caribou-Palermo 115 kV  
21 Transmission Line permanently.

1 **PARAGRAPH 18 OF WALL STREET JOURNAL ARTICLE:**

2 PG&E said it already has repaired or made spot fixes to the most severe problems it  
3 uncovered throughout its system. Risks remain, and the company said it is working to  
prioritize and address them as wildfire season progresses.

4 **RESPONSE TO PARAGRAPH 18:**

5 PG&E admits Paragraph 18. As PG&E reported on June 19, 2019, by that time, PG&E had  
6 addressed every highest-priority condition on transmission structures and at substations, and 97% of  
7 all such conditions on distribution poles. PG&E continues to take corrective actions to address  
8 remaining conditions. PG&E is aware of the continuing inherent risk of operating an electrical system  
9 in a high fire-threat environment and is committed to doing everything it can to minimize that risk.

10 **PARAGRAPH 19 OF WALL STREET JOURNAL ARTICLE:**

11 “The reality is the number of safety risks that we’ve found from our standpoint is  
12 unacceptable,” said Sumeet Singh, vice president of the company’s community wildfire  
safety program.

13 **RESPONSE TO PARAGRAPH 19:**

14 PG&E admits Paragraph 19.

15 **PARAGRAPH 20 OF WALL STREET JOURNAL ARTICLE:**

16 Elizaveta Malashenko, the safety and enforcement chief for the California Public  
17 Utilities Commission, said that after reviewing the inspection results, she “would not be  
comfortable making a statement that [the Caribou-Palermo] was an outlier.”

18 **RESPONSE TO PARAGRAPH 20:**

19 PG&E is not in a position to comment on whether the *WSJ* Article accurately quoted  
20 Ms. Malashenko or presented her quoted statement in the context of her complete remarks.  
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**PARAGRAPH 21 OF WALL STREET JOURNAL ARTICLE:**

Ms. Malashenko said the CPUC's safety auditors have historically relied on utility records rather than field inspections, which are far more costly to conduct. After the Camp Fire, the agency has asked the state for \$25 million to create a three-year program to put its own inspectors in the field, in part because of the problems PG&E has discovered within its system.

**RESPONSE TO PARAGRAPH 21:**

PG&E is not in a position to comment on whether the *WSJ* Article accurately paraphrased Ms. Malashenko or presented her paraphrased statements in context. PG&E has no specific knowledge of whether the CPUC has made any non-public requests to the State of California, including the request referenced in Paragraph 21, or to whom any such requests were made, nor does PG&E know the cost of CPUC field inspections relative to audits of records.

**PARAGRAPH 22 OF WALL STREET JOURNAL ARTICLE:**

"No matter how you look at it, PG&E has a lot of work to do," she said.

**RESPONSE TO PARAGRAPH 22:**

PG&E is not in a position to comment on whether the *WSJ* Article accurately quoted Ms. Malashenko or presented her quoted statement in the context of her complete remarks. PG&E does not dispute that it has "a lot of work to do" to address the current, unprecedented level of risk of wildfire in its service territory, including the work described extensively in PG&E's prior filings with this Court.

**PARAGRAPH 23 OF WALL STREET JOURNAL ARTICLE:**

The part of PG&E's grid that includes the Caribou-Palermo line, known as the Caribou-Valona system, is so old that segments were considered candidates for the National Register of Historic Places at one point by federal agencies. Approximately 800 of the original steel towers built to hold up the transmission lines are still in use, according to PG&E correspondence with federal officials, uncovered through a public-records request.

**RESPONSE TO PARAGRAPH 23:**

PG&E admits that federal agencies considered parts of the Caribou-Valona system, including the section of the Caribou-Palermo 115 kV Transmission Line from the Caribou Powerhouse to the Big Bend Switching Station, for inclusion on the National Register of Historic Places ("NRHP"). In

1 response to PG&E's request for authorization to perform NERC work on the Caribou-Palermo line,  
 2 the United States Forest Service ("USFS") took the position that the Caribou-Big Bend section of the  
 3 line is historically significant and should be included on the NRHP "for its association with key  
 4 historical events and trends in the development of long-distance hydroelectric transmission lines in  
 5 California." (Ex. H, Ltr. from J. Bird, Forest Supervisor, USFS, to J. Polanco, State Historic  
 6 Preservation Officer (Mar. 13, 2019) at 2.) Based on that finding and the California State Historic  
 7 Preservation Officer's concurrence, PG&E understood that the National Historic Preservation Act  
 8 required additional measures to accommodate the line's eligibility for historic status before PG&E  
 9 could proceed with the proposed work.

10 PG&E admits that more than 800 original towers on the historical Caribou-Valona  
 11 transmission network, which includes the Caribou-Palermo 115 kV Transmission Line and ten other  
 12 lines, are still in place. As noted above, following the Camp Fire, the Caribou-Palermo 115 kV  
 13 Transmission Line has been permanently de-energized.

14 **PARAGRAPH 24 OF WALL STREET JOURNAL ARTICLE:**

15 PG&E delayed safety work on the Caribou-Palermo line for more than five years, the  
 16 Journal reported in February. The company needed to replace 49 steel towers "due to  
 17 age," and hardware and aluminum line on 57 towers "due to age and integrity,"  
 18 according to memos PG&E officials sent in 2017 and early 2018 to the U.S. Forest  
 19 Service, whose territory the line crosses. The Journal learned the scope of the work,  
 20 which hasn't previously been reported, through a Freedom of Information Act request  
 21 to federal forest managers.

22 **RESPONSE TO PARAGRAPH 24:**

23 PG&E admits that the completion date for NERC Alert-related work on the Caribou-Palermo  
 24 115 kV Transmission Line to address vertical conductor clearance issues was delayed due to a variety  
 25 of reasons, including engineering, operational and permitting reasons. As stated above, PG&E  
 26 identified approximately 60 towers on the Caribou-Palermo line for replacement in response to the  
 27 NERC Alert. The purpose of the work was to increase the vertical clearance of conductors. It was not  
 28 to identify and repair or replace worn or broken parts. Tower :27/222, which initiated the Camp Fire,

1 was not included within the scope of the project because the conductor clearance on that span was  
 2 determined to be compliant with applicable regulations for vertical clearance.

3 PG&E denies that “the company needed to replace 49 steel towers” on the Caribou-Palermo  
 4 115 kV Transmission Line because of their age and no other reason. Age, in and of itself, was not the  
 5 reason PG&E decided to replace the towers. Rather, the older design of the towers made them  
 6 unsuitable for other methods for increasing the vertical clearance of the conductors, such as adding  
 7 extensions to raise the height of the towers. As the 2018 Forest Service memorandum states:

8 “Tower replacements are planned due to age and type of the existing steel lattice  
 9 towers. The existing towers are approximately 100 years old and are directly buried  
 10 grillage with no concrete foundations. *The towers are not considered structurally*  
 11 *suited to the addition of lattice steel cage top, waist cage, or other extensions to raise*  
*the heights of the towers.”* (Ex. I, Memorandum Regarding PG&E NERC Program  
 (Jan. 3, 2018) at 2 (emphasis added).)

12 Similarly, PG&E also denies that it was planning to replace conductor segments due to age and  
 13 integrity and no other reason. The conductor was scheduled to be replaced as a consequence of the  
 14 planned installation of taller replacement towers. As the 2018 Forest Service memorandum states, the  
 15 conductor on certain spans needed to be replaced because it did “not have adequate strength to  
 16 withstand the increased tension resulting from installing taller replacement structures.” (*Id.* at 5.)

17 PG&E is not in a position to comment on whether the *Wall Street Journal* obtained the  
 18 referenced memoranda through a Freedom of Information Act request.

19 **PARAGRAPH 25 OF WALL STREET JOURNAL ARTICLE:**

20 PG&E has delayed maintenance work on several lines in Northern California’s highest-  
 21 threat fire areas, including at least one near the Plumas National Forest, federal  
 22 documents show. The company hasn’t detailed the scope of the work needed for each  
 line, but it has disclosed that some require upgrades similar to those needed on the  
 Caribou-Palermo line it stopped using.

23 **RESPONSE TO PARAGRAPH 25:**

24 PG&E understands Paragraph 25 to refer to NERC Alert-related work. As stated above, the  
 25 purpose of that work was not to identify and fix worn or broken parts, but rather to address issues  
 26 related to the clearance (ground-to-wire or wire-to-wire) of conductors.

1 PG&E acknowledges that the planning, timing and completion date for specific NERC Alert  
2 projects has changed for a variety of reasons, including prioritization of work across the system and  
3 engineering, permitting and operational reasons. Overall, PG&E has made significant progress toward  
4 addressing NERC Alert work across its system, and has provided regular updates on its progress to  
5 WECC. Specifically, PG&E has addressed more than 10,000 conductor clearance issues out of the  
6 approximately 11,500 identified for work as part of that program (approximately 88%) along hundreds  
7 of circuits, at a cost of over \$750 million.

8 PG&E has completed all NERC mitigation work on 7 of the 11 in-service transmission lines in  
9 the vicinity of Plumas National Forest on which PG&E identified conductor clearance issues,  
10 addressing a total of approximately 120 identified clearance issues on those lines. PG&E has some  
11 outstanding NERC mitigation work on three in-service transmission lines in the vicinity of Plumas  
12 National Forest. On those three lines, PG&E has thus far addressed all but approximately five of the  
13 identified clearance issues.

14 **PARAGRAPH 26 OF WALL STREET JOURNAL ARTICLE:**

15 The deferred maintenance became a problem when drought this decade killed millions  
16 of trees, greatly heightening the risk of wildfire throughout Northern California State  
17 fire officials concluded that the company's equipment sparked 18 wildfires in 2017, in  
most cases because trees made contact with lower-voltage lines.

18 **RESPONSE TO PARAGRAPH 26:**

19 PG&E denies that it has "deferred maintenance" on its transmission lines and refers to its  
20 response to Paragraph 1. PG&E admits Paragraph 26 with respect to the heightened risk of wildfire  
21 resulting from drought and tree mortality and refers to its response to Paragraph 7. PG&E further  
22 admits that CAL FIRE has concluded that PG&E electrical equipment caused 18 wildfires in 2017, the  
23 majority of which CAL FIRE has attributed to trees coming into contact with distribution lines.  
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1 **PARAGRAPH 27 OF WALL STREET JOURNAL ARTICLE:**

2 In response, the company doubled down on tree trimming. The Camp Fire forced  
3 PG&E to turn its attention to higher-voltage lines, which typically run through wide  
paths cleared of trees.

4 **RESPONSE TO PARAGRAPH 27:**

5 PG&E admits that it enhanced its tree trimming and vegetation management work on  
6 distribution lines in response to the October 2017 wildfires. PG&E further admits that its transmission  
7 lines typically run through managed rights-of-way cleared of trees. As PG&E has described at length  
8 in this and other filings, PG&E significantly enhanced its wildfire mitigation efforts, including with  
9 respect to transmission facilities, following the Camp Fire.

10 **PARAGRAPH 28 OF WALL STREET JOURNAL ARTICLE:**

11 Documents show that PG&E is unaware of the exact age of many of its transmission  
12 towers and wires. In 2010, PG&E commissioned consulting firm Quanta Technology,  
13 a subsidiary of Quanta Services Inc., to assess the age and condition of transmission  
structures throughout its 70,000-square-mile service area.

14 **RESPONSE TO PARAGRAPH 28:**

15 PG&E admits that it is not always able to determine the exact age of towers and wires on its  
16 transmission lines, including lines that it has acquired from other companies over the course of more  
17 than 100 years, and that PG&E commissioned Quanta Technology to assess the age and condition of  
18 transmission structures (as well as other transmission components and assets) throughout its service  
19 territory.

20 **PARAGRAPH 29 OF WALL STREET JOURNAL ARTICLE:**

21 The firm was unable to determine the age of about 6,900 towers in the 115-kilovolt  
22 system. It found that nearly 30% of the remaining towers in that system, more than  
23 3,500, were installed in the 1900s and 1910s. About 60% of the structures in the 230-  
kilovolt system were built between 1920 and 1950.

24 **RESPONSE TO PARAGRAPH 29:**

25 PG&E admits Paragraph 29 and refers to its response to Paragraph 28. PG&E further notes  
26 Quanta Technology's observation that "[l]attice steel structures installed in the 1920s in the US utility  
27 industry remain in service in many locations" and that transmission tower age data from six utilities,  
28

1 including PG&E, “demonstrate[d] that structures remain in service in the utility industry well into  
 2 seven or eight decades, even longer in some cases.” (Ex. F, Quanta Study, “Structures” Chapter,  
 3 at 20-21.)

4 **PARAGRAPH 30 OF WALL STREET JOURNAL ARTICLE:**

5 It is common practice for utilities to use laser imaging equipment to inspect towers  
 6 instead of having workers climb them. Because PG&E had so many old towers,  
 7 Quanta concluded that the company should consider climbing at least a sample of them  
 every three to five years.

8 **RESPONSE TO PARAGRAPH 30:**

9 PG&E admits that Light Detection and Ranging (“LiDAR”) laser imaging technology is  
 10 commonly used by utilities, including PG&E, to inspect transmission towers and detect vegetation  
 11 encroachment on transmission rights-of-way. PG&E has not used LiDAR technology as a substitute  
 12 for climbing inspections. Even before the Camp Fire, PG&E performed routine ground inspections  
 13 with binoculars and aerial patrols of its transmission lines at regular intervals. As discussed in its  
 14 response to Paragraph 10, PG&E’s policies called for routine climbing inspections of towers on  
 15 500 kV transmission lines and non-routine climbing inspections of towers on all transmission lines in  
 16 in response to specific triggering events.

17 PG&E admits that the 2010 Quanta Study states that “[a]n effective strategy for structure and  
 18 foundation management would include elements such as . . . [c]omprehensive climbing inspection at  
 19 3-5 year intervals.” (Ex. F, Quanta Study, “Structures” Chapter, at 48.) The same sentence in that  
 20 study recommends several other “elements” that were and continue to be a part of PG&E’s asset  
 21 management and maintenance programs, including “[r]outine visual inspections by ground and aerial  
 22 patrol as part of general line inspection process,” “[r]ecoating or painting at intervals determined by  
 23 the degradation of the coating thickness,” and “[l]aboratory testing of components removed from  
 24 service as part of repair or replacement work to determine overall condition and remaining strength of  
 25 material,” among others. (*Id.* at 48-49.)

**PARAGRAPH 31 OF WALL STREET JOURNAL ARTICLE:**

PG&E didn't implement that recommendation, said Placido J. Martinez, a former PG&E head of strategic asset management. "We felt we were doing enough," he said.

**RESPONSE TO PARAGRAPH 31:**

PG&E understands that Mr. Martinez told the *Wall Street Journal* that he could not recall the 2010 Quanta Study or its recommendations, but that he felt PG&E was doing enough with regard to its transmission inspection practices.

PG&E admits that its policies prior to the Camp Fire did not require routine climbing inspections of transmission lines below 500 kV. PG&E's policies did require, for all transmission lines, climbing inspections in response to specific triggering events.

**PARAGRAPH 32 OF WALL STREET JOURNAL ARTICLE:**

Regulators have little say over such transmission-maintenance planning. Although PG&E files transmission-spending plans with the Federal Energy Regulatory Commission, the agency's jurisdiction is over rates and terms of service. If state officials or electric companies that rely on PG&E's wires want to challenge the utility's spending, it is up to them to parse the annual federal filings, which often exceed 1,500 pages. Projects that involve routine maintenance, such as replacing aging towers, hardware and conductors, don't require state or federal approval.

**RESPONSE TO PARAGRAPH 32:**

PG&E denies that "[r]egulators have little say over . . . transmission-maintenance planning" and the implication that FERC's jurisdiction is limited to "rates and terms of service." FERC is responsible for approving and enforcing reliability standards for the bulk-power system, which includes components of PG&E's transmission system. *See* 16 U.S.C. § 824o. These reliability standards include standards governing vegetation management and transmission maintenance planning, *see* FAC003-4; FAC-501-WECC2, and are enforceable by civil penalties of up to \$1 million per day per violation. 16 U.S.C. § 825o-1. Additionally, the Federal Power Act requires that the rates electric utilities charge for the transmission or sale of electric energy be "just and reasonable," and confers authority on FERC to make such determinations. 16 U.S.C. § 824d. FERC has substantial

1 influence over PG&E's transmission maintenance planning because the rates it authorizes will  
 2 ultimately determine the extent to which PG&E can recover the costs of planned capital and  
 3 maintenance work on its transmission lines and, thus, the proportion of that work that is economically  
 4 sustainable for PG&E to perform.

5 Under that regulatory framework for cost recovery, PG&E is required to provide detailed  
 6 information on proposed spending in its transmission revenue requirement filings. PG&E provides  
 7 that information because that is what FERC and federal law require. *See* 18 C.F.R. § 35.1 (requiring  
 8 utilities to file "full and complete rate schedules and tariffs . . . clearly and specifically setting forth all  
 9 rates and charges for any transmission or sale of electric energy subject to the jurisdiction of this  
 10 Commission," as well as "the classifications, practices, rules and regulations affecting such rates").  
 11 Federal regulations further require that PG&E provide significant data in support of requested rate  
 12 increases, including comparative information about past rates, detailed cost of service information,  
 13 "work papers" that provide "a comprehensive explanation of the bases for the adjustments or  
 14 estimates," and supporting testimony and exhibits. *See* 18 C.F.R. § 35.13.

15 PG&E also disagrees with the overbroad statement that "[p]rojects that involve routine  
 16 maintenance, such as replacing aging towers, hardware and conductors, don't require state or federal  
 17 approval." While specific types of routine maintenance such as component replacement may not  
 18 require such approval, projects that involve replacement of entire transmission towers, taking lines out  
 19 of service, or performing work on federal land may require coordination with and, in certain  
 20 circumstances, approval by state and federal regulators, including the CPUC, CAISO and USFS.

21 **PARAGRAPH 33 OF WALL STREET JOURNAL ARTICLE:**

22 California regulators have hundreds of pages of rules for many aspects of utility  
 23 operations. Their rules for transmission are three sentences long. They simply say that  
 each utility must come up with its own procedures and follow them.

24 **RESPONSE TO PARAGRAPH 33:**

25 PG&E denies Paragraph 33. PG&E understands the statement that "California regulators' . . .  
 26 rules for transmission are three sentences long" to be a reference to Part IV of CPUC General Order  
 27 165 ("GO 165"). That Part, titled "Transmission Facilities", provides as follows:  
 28

1 “Each utility shall prepare and follow procedures for conducting inspections and  
 2 maintenance activities for transmission lines. Each utility shall maintain records of  
 3 inspection and maintenance activities. Commission staff shall be permitted to inspect  
 records and procedures consistent with Public Utilities Code Section 314 (a).”

4 While that specific provision in GO 165 is brief, there exist other, more detailed CPUC  
 5 General Orders that regulate California utilities’ transmission operations. Among those other General  
 6 Orders is GO 95 on Rules for Overhead Electric Line Construction, which contains detailed  
 7 requirements regarding the construction and maintenance of both transmission and distribution lines  
 8 (Section I, Rules 12.1, 12.2); minimum safety factors and loading requirements for transmission lines  
 9 (Section IV, Rules 43 & 44.1); material and strength requirements for towers, conductors, insulators,  
 10 guys and anchors (Section IV, Rules 48 & 49; Section VI, Rules 61.3 & 65); vegetation management  
 11 around transmission lines (Section III, Rule 35); and ground-to-conductor, conductor-to-conductor and  
 12 other clearance requirements for transmission lines (Section III, Rules 37-39; Section VI, Rule 64.4).  
 13 Other General Orders that apply to transmission lines include General Order 131-D on Planning and  
 14 Construction of Facilities for the Generation of Electricity and Certain Electric Transmission Facilities  
 15 and General Order 128 on Construction of Underground Electric Supply and Communication  
 16 Systems.

17 **PARAGRAPH 34 OF WALL STREET JOURNAL ARTICLE:**

18 With no regulator keeping a close eye, the timetable for completing important upgrades  
 19 slipped. PG&E told federal regulators it planned to overhaul the Caribou- Palermo line  
 20 in 2013, yet it still hadn’t made improvements when a piece of hardware holding a  
 high-voltage line failed last November, sending sparks into the grass and igniting the  
 Camp Fire.

21 **RESPONSE TO PARAGRAPH 34:**

22 PG&E denies that “no regulator keep[s] a close eye” on PG&E’s transmission operations for  
 23 the reasons described above. PG&E regularly submits filings with FERC that contain detailed  
 24 information on planned upgrades to PG&E’s transmission lines, including expected timeframes for  
 25 completion of work. PG&E is also accountable to other regulators, including the CPUC, which has  
 26 intervener status in PG&E’s transmission rate cases; CAISO, which has operational control over  
 27  
 28

1 PG&E's transmission facilities; and NERC and WECC, to which PG&E submits regular reports  
2 regarding its progress toward bringing the vertical clearance of its transmission lines into compliance  
3 with GO 95 and NERC requirements.

4 PG&E acknowledges that it informed FERC in 2013 of a plan to relocate certain towers on the  
5 Caribou-Palermo 115 kV Transmission Line. PG&E denies that such work constituted an "overhaul"  
6 of the line. Rather, the project called for replacing and relocating 10 towers along the line, comprising  
7 the approximately one-mile span from Tower :7/55 to Tower :8/64, across the river to a more easily  
8 accessible area near the Caribou-Table Mountain 230 kV Transmission Line. Tower :27/222, the  
9 tower identified as the ignition point of the Camp Fire, is many miles away from those towers and no  
10 work was contemplated on it as part of this tower relocation project. PG&E later determined that  
11 relocation of the towers was unnecessary because it could reasonably access the towers through some  
12 additional roadwork, and the condition of the towers could be addressed through maintenance.

13 **PARAGRAPH 35 OF WALL STREET JOURNAL ARTICLE:**

14 After the Journal reported earlier this year that the planned upgrades to that line had  
15 been delayed, PG&E released a statement saying the work was "not maintenance-  
related (i.e., work relating to identifying and fixing broken or worn parts)."

16 **RESPONSE TO PARAGRAPH 35:**

17 PG&E admits that the *Wall Street Journal* released an article dated February 27, 2019, titled  
18 "PG&E Delayed Safety Work on Power Line That is Prime Suspect in California Wildfire", that  
19 claimed that PG&E had delayed NERC Alert work on the Caribou-Palermo 115 kV Transmission  
20 Line and that PG&E issued a February 27, 2019 statement responding to the allegations in the article  
21 and explaining that the work slated for the Caribou-Palermo line was "not maintenance-related (i.e.,  
22 work relating to identifying and fixing broken or worn parts)."

23 As explained in PG&E's February 27, 2019 statement and in response to Paragraph 4 above,  
24 the project described in the February 27 article was part of a system-wide effort undertaken in  
25 response to the 2010 NERC Alert. The purpose of that project was to address ground-to-conductor  
26 and conductor-to-conductor clearances on transmission towers, not to identify and repair broken or  
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worn parts. Tower :27/222, which initiated the Camp Fire, was not within the scope of the project because PG&E determined that the conductor clearance on that span was compliant with applicable regulations for vertical clearance.

**PARAGRAPH 36 OF WALL STREET JOURNAL ARTICLE:**

Internally, however, that is how the company characterized it. In a 2017 email to Forest Service officials, PG&E land planner Paul Marotto wrote that the company's "planned maintenance includes structure replacement, conductor replacement, conductor re- tensioning, installation of new insulators and structure modifications." PG&E officials said the work was needed in part because the strength of the aging towers and wires had deteriorated.

**RESPONSE TO PARAGRAPH 36:**

PG&E admits that in an October 18, 2017 email to USFS officials, PG&E Principal Land Planner Paul Marotto wrote that "PG&E's planned maintenance includes structure replacement, conductor replacement, conductor re-tensioning, installation of new insulators and structure modifications." (Ex. J, Email from P. Marotto (Oct. 17, 2017).) Mr. Marotto's email further states that the purpose of the work was "to mitigate NERC discrepancies (ground to wire clearances)." (*Id.*)

As to the statement that "PG&E officials said the work was needed in part because the strength of the aging towers and wires had deteriorated", PG&E refers to its response to Paragraph 24 above.

**PARAGRAPH 37 OF WALL STREET JOURNAL ARTICLE:**

Asked about the email, PG&E said it still disputes that the work was maintenance related, saying it was needed to adhere to 2010 industry guidelines that called on companies to ensure their transmission lines met design specifications.

**RESPONSE TO PARAGRAPH 37:**

PG&E admits that it told the *Wall Street Journal* that the NERC Alert work on its transmission lines was not for the purpose of identifying and fixing broken or worn parts, but rather to address issues relating to the clearance of conductors. That statement was accurate.



**PARAGRAPH 38 OF WALL STREET JOURNAL ARTICLE:**

PG&E has told state regulators it has struggled to consolidate data on the condition of its equipment. Kevin Dasso, PG&E's vice president of electric asset management until earlier this year, said the lack of comprehensive information made it difficult to determine which transmission lines were approaching the point of failure.

**RESPONSE TO PARAGRAPH 38:**

PG&E understands Paragraph 38 to be referring to the testimony of PG&E Vice President Kevin Dasso in connection with PG&E's eighteenth transmission rate case before FERC. PG&E denies that Mr. Dasso "told state regulators [PG&E] has struggled to consolidate data on the condition of its equipment" or that an alleged "lack of comprehensive information made it difficult to determine which transmission lines were approaching the point of failure."

Instead, Mr. Dasso testified that, while data on asset condition may not be easily retrievable from a database for every type of asset, relevant information is nonetheless available to and accessible by PG&E's engineers, who are trained to compile that data from databases, electronic repositories and hard copy documents. Relevant passages from Mr. Dasso's testimony are set forth below:

"Q. PG&E doesn't have all of the data on a class of assets in one place, does it?

"A. No. That doesn't mean it's not available and can't be pulled together.

"Q. How does a PG&E staff person know where to look for each piece of data that they need in order to run the 1 to N analysis?

"A. It depends on the asset class, and each of those engineers are familiar with the data that is available to them. They know where to find it. They also know that not all of the data is exactly perfect.

"However, they know, as we've provided in responses to data requests, the age of substation transformers, for example. That information is available. It's readily available. The engineers that work in that space have that information available to them, and they use that regularly in their criteria or in their implementation of the replacement criteria.

"Q. A PG&E engineer, program manager who's working on a specific asset class will simply know where to find the data to run the 1 to N analysis?

1 “A. Yes.

2 “Q. It’s not written down anywhere?

3 “A. What do you mean not written down anywhere, the precise  
4 directions to that engineer, exactly how to do that?

5 “Q. A listing of where all the data is available for a particular asset  
6 class. It’s not identified, so if that project manager gets hit by a bus,  
7 somebody else can run the analysis? Are there no procedures in place at  
PG&E to have this information shared and ensure that the analysis that  
is run looks at all the data and not just selective data?

8 “A. In some cases, we have procedures that lay that out in some detail,  
9 and in other cases we do not. We do not have in all cases the exact  
10 cookbook instructions for how an engineer precisely does his job to  
produce the information necessary to create the recommendations.

11 “However, that’s what we expect our engineers to do. They understand  
12 the assets. They understand PG&E. They understand where the data is.  
13 They understand how it's labeled, how it’s culled out. They also  
14 understand where data may not be available for a particular class of  
assets. PG&E is made up of many individual utilities that have been  
15 acquired over the years.” (Ex. K, Hr’g Tr. (K. Dasso Test.), *Pacific Gas  
and Electric Co.*, Dkt. No. ER16-2320-002 (Jan. 9, 2018) at 236:6-  
237:25.)

16 **PARAGRAPH 39 OF WALL STREET JOURNAL ARTICLE:**

17 In 2018, when PG&E proposed a spending plan to federal regulators for thousands of  
18 transmission-line upgrades, it used a risk-based system to prioritize the projects.  
19 Nearly 600 projects, with an estimated \$2.7 billion cost, had a higher risk score than  
Caribou-Palermo, indicating PG&E considered that work more urgent.

20 **RESPONSE TO PARAGRAPH 39:**

21 PG&E admits that it uses a risk-based methodology known as Risk-Informed Budget  
22 Allocation, or RIBA, that weighs safety, reliability and environmental risks to prioritize asset  
23 management projects on transmission lines.

24 PG&E admits that in response to a March 2018 data request from the CPUC’s Legal Division,  
25 PG&E provided data showing that 595 projects with an estimated total cost of approximately  
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1 \$2.7 billion were assigned higher RIBA scores than NERC Alert-related work on the Caribou-Big  
2 Bend section of the Caribou-Palermo line.

3 **PARAGRAPH 40 OF WALL STREET JOURNAL ARTICLE:**

4 PG&E said it has improved its records in recent years by conducting inventories in the  
5 field and has built databases to upgrade its analytical capabilities.

6 **RESPONSE TO PARAGRAPH 40:**

7 PG&E admits that it told the *Wall Street Journal* that it has taken a number of steps to improve  
8 its records regarding the age and condition of its assets. That statement was accurate. PG&E  
9 acknowledges it has more work to do to improve in these areas.

10 **PARAGRAPH 41 OF WALL STREET JOURNAL ARTICLE:**

11 Other PG&E transmission lines at least as old as the Caribou-Palermo remain in  
12 service. One leg of the Caribou-Valona network, known as the Ignacio-Mare Island  
13 line, delivers power to an electric switchyard at the edge of a high-fire-risk area in  
14 Marin County north of the Golden Gate Bridge and a now-closed naval shipyard. At  
least 28 of the towers on the line have been in place since 1921, according to a  
company inventory.

15 **RESPONSE TO PARAGRAPH 41:**

16 PG&E admits Paragraph 41 and notes that no structure on either of the two Ignacio-Mare  
17 Island 115 kV Transmission Lines is situated in a Tier 2 or Tier 3 High Fire-Threat District. As  
18 discussed in its response to Paragraph 42, much of the circuit runs through wetlands.

19 **PARAGRAPH 42 OF WALL STREET JOURNAL ARTICLE:**

20 PG&E has repeatedly delayed work on the line, which has segments sagging too close  
21 to the ground, since first proposing it in 2014, federal regulatory filings show. The  
22 \$6.9 million project, which involves increasing the height of 44 towers, was initially  
expected to be completed in 2015 but now is slated to start next year, the company said.

23 **RESPONSE TO PARAGRAPH 42:**

24 PG&E understands Paragraph 42 to be referring to NERC Alert work on the Ignacio-Mare  
25 Island 115 kV Transmission Lines. The planned NERC mitigations for PG&E transmission lines will  
26 address vertical conductor clearance issues on 185 towers through a combination of tower  
27 modifications and replacements and conductor replacements. PG&E admits that since work on the  
28

1 line was first proposed in 2014, it has been delayed due to engineering, operational and environmental  
 2 reasons, as well as the need to prioritize work on the hundreds of lines within the scope of PG&E's  
 3 NERC Alert program. Among other issues, extensive permitting is required for this work because  
 4 many of the towers on the Ignacio-Mare Island 115 kV Transmission Lines run through the  
 5 Napa-Sonoma Marshes Wildlife Area and the San Pablo Bay National Wildlife Refuge, both sensitive  
 6 wetland environments with endangered species. Geological studies in these environmentally sensitive  
 7 areas that require permits are also required before engineering can continue. PG&E submitted its  
 8 application in June 2018 and received all approvals needed to proceed with those studies in May 2019.  
 9 This work is currently forecasted to be completed in three phases from 2020 to 2023.

10 PG&E further notes that the \$6.9 million referenced in Paragraph 42 refers to the projected  
 11 cost for only one of these phases as of the date of the relevant regulatory filing. The total cost for all  
 12 three phases combined is currently projected to be between \$40 and 50 million.

13 **PARAGRAPH 43 OF WALL STREET JOURNAL ARTICLE:**

14 The company also has delayed upgrades to several 115-kilovolt lines passing through  
 15 national forests that have become California's highest-risk fire areas, the filings  
 16 indicate. A line partly in the Plumas National Forest was slated for work this year, but  
 was delayed and now is on hold because of the Camp Fire investigation.

17 **RESPONSE TO PARAGRAPH 43:**

18 PG&E understands "upgrades" in this paragraph to be a reference to NERC Alert-related work  
 19 to raise the vertical clearance of conductors. PG&E further understands the "line partly in the Plumas  
 20 National Forest . . . slated for work this year" and "now . . . on hold because of the Camp Fire  
 21 investigation" to be the southern section of the Caribou-Palermo 115 kV Transmission Line running  
 22 from Big Bend Switching Station to Palermo Substation. Tower :27/222, which initiated the Camp  
 23 Fire, is not located on this section of the Caribou-Palermo 115 kV Transmission Line. NERC Alert-  
 24 related work on that section was originally scheduled to be completed in November 2018 but was  
 25 delayed. PG&E prioritizes projects for completion based on its Risk-Informed Budget Allocation  
 26 process, and provides forecasted dates in its FERC revenue requirement filings by which it expects  
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1 each project to become operational. PG&E re-prioritizes projects for a variety of reasons, including  
2 delays in obtaining necessary permits, unanticipated engineering challenges, and the need to obtain  
3 clearances to perform the work, among other reasons. Shortly after the Camp Fire, PG&E suspended  
4 the project in the interest of preserving potential evidence related to the Camp Fire. The entire  
5 Caribou-Palermo 115 kV Transmission Line has been permanently de-energized since December  
6 2018, making this work unnecessary.

7 **PARAGRAPH 44 OF WALL STREET JOURNAL ARTICLE:**

8 A line built to carry hydroelectric power through the Eldorado and Stanislaus national  
9 forests was scheduled for upgrades in 2016, but work isn't expected to start until the  
10 second half of next year. A line in the Los Padres National Forest near San Luis  
Obispo was initially set for upgrades in 2015 that now are scheduled to start in 2021.

11 **RESPONSE TO PARAGRAPH 44:**

12 Based on the date and location information in Paragraph 44 and a prior request for comment  
13 from the *Wall Street Journal*, PG&E understands this Paragraph to refer to work that includes  
14 addressing NERC Alert-related vertical clearance issues on the 115 kV Salt Springs-Tiger Creek and  
15 Temblor-San Luis Obispo transmission lines.

16 PG&E acknowledges that work to address vertical clearance issues on the Salt Springs-Tiger  
17 Creek and Temblor-San Luis Obispo transmission lines has not yet started and is now scheduled for  
18 completion in 2020 and 2021, respectively.

19 In the case of the Salt Springs-Tiger Creek 115 kV Transmission Line, in 2016, PG&E  
20 reassessed the most effective engineering approach for mitigating the conductor clearance issues  
21 identified on the line. As a result of that reassessment, PG&E adopted a new method for mitigation  
22 that increased the project's scope and required additional soil studies, for which additional permits  
23 were necessary. PG&E performed borings in connection with this project in 2018, and currently  
24 expects to complete the project in 2020.

25 With respect to NERC mitigation work on the Temblor San-Luis Obispo 115 kV Transmission  
26 Line, the project required extensive engineering analysis to determine the most effective method for  
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1 mitigating the identified conductor clearance issues. The current operational date of 2021 was chosen  
2 based on the anticipated time required to acquire a permit from the USFS to proceed with the project.

3 **PARAGRAPH 45 OF WALL STREET JOURNAL ARTICLE:**

4 PG&E acknowledged in its 2017 internal presentation that it had poor age data on the  
5 towers in its 60-kilovolt system. The company recently targeted one leg for extensive  
6 work after discovering that 10 towers within the Golden Gate National Recreation Area  
were at high risk of failure.

7 **RESPONSE TO PARAGRAPH 45:**

8 PG&E admits that the June 2017 internal presentation titled “Electric Transmission Overhead  
9 Steel Structure Strategy Overview,” referenced in this Paragraph as well as Paragraph 5, states that  
10 PG&E has “[p]oor age data on 60 and 70 kV structures.” (Ex. E, Electric Overhead Steel Structure  
11 Strategy Overview (June 2017) at 7.) PG&E’s transmission system is composed of hundreds of lines  
12 that PG&E acquired over the course of a century. Many of those lines were acquired from companies  
13 that did not keep records of when their towers were installed.

14 PG&E acknowledges that, in May 2019, it identified nine towers on the Ignacio-Alto-Sausalito  
15 60 kV Transmission Line located within the Golden Gate National Recreation Area (“GGNRA”) in  
16 critical condition and requiring replacement. A tenth tower on the line within the GGNRA was found  
17 to require lower-priority safety work and will also be replaced. Pending permanent replacements,  
18 PG&E is installing temporary replacement structures for towers identified for replacement within the  
19 GGNRA. While work is underway on disassembling the existing towers, PG&E is monitoring the  
20 towers around the clock to protect public safety.

1 **PARAGRAPH 46 OF WALL STREET JOURNAL ARTICLE:**

2 A June 5 letter from PG&E said the towers are in “critical condition with noticeable  
3 material loss and ground erosion” and require round-the-clock monitoring. The  
4 company estimated it will take more than a year to replace towers and make permanent  
repairs.

5 **RESPONSE TO PARAGRAPH 46:**

6 PG&E admits Paragraph 46, which refers to a letter from PG&E to the GGNRA, except  
7 clarifies that the letter is dated June 6, 2019.



Dated: July 31, 2019

Respectfully Submitted,

JENNER & BLOCK LLP

By: /s/ Reid J. Schar  
Reid J. Schar (*pro hac vice*)

CRAVATH, SWAINE & MOORE LLP

By: /s/ Kevin J. Orsini  
Kevin J. Orsini (*pro hac vice*)

CLARENCE DYER & COHEN LLP

By: /s/ Kate Dyer  
Kate Dyer (Bar No. 171891)

Attorneys for Defendant PACIFIC GAS AND  
ELECTRIC COMPANY